though the incidence and severity of arthritis diminished in later passages. The susceptibility of LEW rats to Lyme spirochetes from different geographic areas was also evaluated. Three local isolates as well as isolates from Shelter Island, NY, and from Wisconsin were inoculated into neonatal LEW rats. All 5 isolates were infectious and pathogenic. Neonatal F344 and Sprague-Dawley rats were found to be as susceptible as LEW rats to arthritis and multisystemic infection after intraperitoneal inoculation with *B. burgdorferi*. These results indicate that this rat model of Lyme disease in not limited by genotype, *in vitro* culture, or geographic origin of the spirochete. The model's demonstrated flexibility and reproducibility should make it useful in studying the pathogenesis of Lyme arthritis.
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56 A Rat Model to Evaluate Food Aversion to Deoxynivalenol (Vomitoxin)

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The presence of vomitoxin in livestock feed is associated with food rejection. A rat model was established to evaluate food pellet refusal induced by the presence of vomitoxin in certain concentrations. Male Sprague-Dawley rats were housed individually in an isolated operant conditioning chamber and obtained food *ad libitum* by pressing a lever on an FR-1 schedule. After a training period, acquisition of pellets containing vomitoxin (3, 6, or 12 ppm) was compared with control for periods up to 30 days. In addition, trials were conducted comparing purified 4-deoxynivalenol (DON) (6, 12, 24, 48 ppm) with controls. Body weight changes, food and water consumption, and food pellet rejection were evaluated by ANOVA, and post-hoc comparisons were made. Food pellet rejection was dose-related to the level of vomitoxin and purified DON. Significantly decreased body weight gain was evident with higher doses of vomitoxin and DON. Hematologic and pathologic studies were conducted. Food rejection was maintained throughout the 30 day period, and there was no indication of tolerance to the vomitoxin at the 12 ppm level in food.
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57 Investigations into the Underlying Mechanisms Involved in Vomitoxin Induced Food Rejection in the Rat

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A rat model was developed previously to study food rejection in the Sprague-Dawley rat exposed to deoxynivalenol (DON) in an operant conditioning chamber. The present experiments used the rat model to evaluate further possible underlying mechanisms of the DON induced food rejection response. Under anaesthesia, rats were implanted surgically with osmotic minipumps that secreted purified DON (0, 20, 40 mg/ml) in propylene glycol. Intraperitoneal, intragastric, and subcutaneous routes were evaluated for effects on the rats. Although the rats received normal uncontaminated pellets, rejection occurred in rats receiving DON in all three routes studied. Body weight changes were significantly decreased in rats receiving DON. Pathology studies revealed a dose-related irritant response to secretion of DON in the subcutaneous and intraperitoneal studies. Further experiments were conducted to compare rats with surgical ablation of the area postrema (AP) with sham operated control rats. Both groups rejected 48 ppm DON contaminated pellets. However, the pellet rejection rate was lower in the AP lesioned rats ($p < .01$). Factors in addition to the senses of taste and smell are involved with the food rejection phenomenon.
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58 An Outbreak of Cryptosporidiosis in Guinea Pigs and Experimental Transmission

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Six 1 to 10 week old guinea pigs from one room had weight loss, distended abdomens, or diarrhea. Four more were found dead. Eight were 200 g pigmented pigs from one source, and two 400 g albino pigs were from another source. All animals had numerous cryptosporidia on the villous surface, marked blunting and fusion of villi, and acid fast-positive oocysts in feces, and impression smears of small intestine. Experimental transmission was carried out by inoculating by gavage ten 200 g and 400 g guinea pigs with cryptosporidial oocysts (12-17 oocysts/g). Two animals from each weight group were sacrificed at 2, 4, 6, 8, and 10 days, post-inoculation (PI). Control animals were inoculated with PBS, and one animal from each weight group was sacrificed at 0, 2, 6, and 8 days PI. Diarrhea was seen in 200 g pigs between 3 and 8 days PI, and one died on the third day. Oocysts in feces were observed in very small numbers on 2 days PI, reached maximum numbers between 4-6 days PI, and diminished to small numbers by 10 day PI. Morphologic observations, as described for the spontaneous disease, followed a pattern similar to that described above. All animals were infected, but 400 g pigs tended to be less severely affected than were 200 g pigs. No evidence of cryptosporidiosis was seen in controls. The production of oocysts distinguishes the cryptosporidium found in this outbreak *Cryptosporidium wrarii*, a species described previously in guinea pigs. Cryptosporidiosis in guinea pigs may prove to be a useful animal model.
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